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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

FISCHER, JUSTIN R

ART UNIT

PAPER NUMBER

1747

MAIL DATE

DELIVERY MODE

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/565,633	Applicant(s) DAGHINI ET AL.	
	Examiner Justin R. Fischer	Art Unit 1747	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 December 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 31-49, 51, 54-65 and 68-71 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 31-49, 51, 54-65 and 68-71 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date. _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
2. Claims 31-34, 38-45, 49, 51, 54-65, 68, 70, and 71 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pneumatiques (GB 1,091,507, of record) and further in view of Okamoto (US 5,287,691, of record).

Pneumatiques teaches a pneumatic tire construction including a pair of annular reinforcing elements 10, a carcass structure 13, a pair of bead fillers 11, at least one flipper 12, a tread band, a belt structure (reference character 2 in Figure 1), and a pair of sidewalls, wherein each of said carcass plies 13₁-13₃ are turned up around respective annular reinforcing elements. As to the flipper, Pneumatiques teaches the use of parallel metallic reinforcing elements, such as cords, cables, or wires (Page 2, Lines 35-45). While Pneumatiques fails to expressly suggest a cord having at least one preformed element, such a metallic cord is recognized as providing improved corrosion resistance and fatigue resistance, as shown for example by Okamoto (Column 1, Lines 5-11). It is particularly noted that Okamoto broadly teaches the use of such a metallic cord in tire constructions- one of ordinary skill in the art at the time of the invention would have readily appreciated forming a wide variety of tire components, including a conventional tire flipper, with the disclosed steel reinforcing cord as the above noted benefits are highly desirable in all tire components including steel reinforcing elements. Absent any conclusive showing of unexpected results, one of ordinary skill in the art at

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the time of the invention would have found it obvious to use the metallic cord of Okamoto in the flipper of Pneumatiques. Also, the preformed filaments of Okamoto have a diameter between 0.10 mm and 0.50 mm, which substantially encompasses the claimed range (Column 5, Lines 34-36).

Lastly, regarding independent claim 31, Pneumatiques suggests the use of more than one flipper (Page 2, Lines 15-20). In such an instance, one of the flippers can be viewed as the claimed "flipper" and the additional flipper can be viewed as the claimed "chafer" (that which is directly adjacent the up carcass plies (13₁-13₃). The claims as currently drafted do not exclude the second flipper of Pneumatiques from being viewed as a chafer (claim only requires a layer formed of metallic reinforcing elements).

Regarding claims 32-34, 38, 43-45, and 48, the cord of Miyazaki includes a pair of preformed filaments having a spiral or helical shape (Column 2, Lines 54+).

With respect to claims 39 and 40, flipper 12 comprises a pair of legs that are in direct contact with bead filler 11 and a central portion that directly contact the annular reinforcing elements 10. It is further evident from Figure 2 that flipper ends 12₁ and 12₂ are offset from one another.

Regarding claim 41, a first flipper constitutes the claimed flipper and a second flipper constitutes the claimed "chafer". One would have found it obvious to form each with the metallic reinforcing cord of Okamoto.

With respect to claims 54 and 59, one of ordinary skill in the art would have recognized the disclosed metal as being steel as is conventional in the tire industry.

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Regarding claims 55 and 60, Okamoto teaches the use of brass plated metal filaments, as is conventional in the tire industry (Column 6, Lines 20+).

As to claims 56, 57, 61, and 62, Miyazaki suggests the inclusion of 2 preformed filaments having the claimed preformed and stranding dimensions (Column 6, Lines 20+). Additionally, it is noted that the claims define absolute dimensions and it is well recognized that cord constructions vary as a function of the size of the tire (and the intended use)- one of ordinary skill in the art at the time of the invention would have found it obvious to select an amplitude and wavelength in accordance to the claimed invention absent a conclusive showing of unexpected results.

Regarding claims 58 and 63, the claims define an extremely broad range of values for the cord density and said values are consistent with those conventionally used in tire components, including flippers. Additionally, applicant has not provided a conclusive showing of unexpected results to establish a criticality for the claimed cord density.

With respect to claims 64 and 65, flipper 12 and chafer 16 are formed of metallic reinforcing elements inclined between 20 and 45 degrees with respect to the equatorial plane of the tire, which falls entirely within the broad ranges of the claimed invention.

Regarding claim 70, the “chafer” of Pneumatiques is disposed between two carcass plies in as much as Figure 4 depicts such an arrangement (see Page 26, Lines 27+ of original disclosure).

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3. Claims 31-37, 39-48, 51, 54-65, 70, and 71 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pneumatiques and further in view of Mizuma (JP 11241282, newly cited).

Pneumatiques teaches a pneumatic tire construction including a pair of annular reinforcing elements 10, a carcass structure 13, a pair of bead fillers 11, at least one flipper 12, a tread band, a belt structure (reference character 2 in Figure 1), and a pair of sidewalls, wherein each of said carcass plies 13₁-13₃ are turned up around respective annular reinforcing elements. As to the flipper, Pneumatiques teaches the use of parallel metallic reinforcing elements, such as cords, cables, or wires (Page 2, Lines 35-45). While Pneumatiques fails to expressly suggest a cord having at least one preformed element, such a metallic cord is recognized as providing high durability, as shown for example by Mizuma (Abstract). It is particularly noted that Mizuma broadly teaches the use of such a metallic cord in tire constructions- one of ordinary skill in the art at the time of the invention would have readily appreciated forming a wide variety of tire components, including a conventional tire flipper, with the disclosed steel reinforcing cord as the above noted benefits are highly desirable in all tire components including steel reinforcing elements (fair reading of reference suggests the general use of such cords in all tire components). Absent any conclusive showing of unexpected results, one of ordinary skill in the art at the time of the invention would have found it obvious to use the metallic cord of Mizuma in the flipper of Pneumatiques.

Also, Mizuma teaches a plurality of embodiments in which the steel filaments have a diameter of 0.25 mm (Table 1).

Lastly, regarding independent claim 31, Pneumatiques suggests the use of more than one flipper (Page 2, Lines 15-20). In such an instance, one of the flippers can be viewed as the claimed "flipper" and the additional flipper can be viewed as the claimed "chafer" (that which is directly adjacent the up carcass plies (13₁-13₃). The claims as currently drafted do not exclude the second flipper of Pneumatiques from being viewed as a chafer (claim only requires a layer formed of metallic reinforcing elements).

Regarding claims 32-37 and 43-48, the cord of Mizuma includes at least two, preformed steel filaments having a "substantially" sinusoidal form (Abstract). The reference further teaches that the preformed filaments have a wave pitch between 2 and 10 mm and an amplitude or wave height between 0.02 and 10 mm (Abstract).

With respect to claims 39 and 40, flipper 12 comprises a pair of legs that are in direct with bead filler 11 and a central portion that directly contact the annular reinforcing elements 10. It is further evident from Figure 2 that flipper ends 12₁ and 12₂ are offset from one another.

As to claim 51, strips 16 can also be viewed as the claimed "chafer" and such strips are positioned axially external of carcass plies 13₁-13₃. It is further noted that such a rejection is made in the event that the claims require a combination of chafer arrangements (that of claims 31 and 51).

With respect to claims 54 and 59, Mizuma expressly teaches the use of steel filaments.

Regarding claims 55 and 60, metal filaments are conventionally brass plated in the tire industry and applicant has not provided a conclusive showing of unexpected results to establish a criticality for the claimed coating.

As to claims 56, 57, 61, and 62, Mizuma suggests the inclusion of at least 2 preformed filaments having the claimed preformed and stranding dimensions (Abstract). Additionally, it is noted that the claims define absolute dimensions and it is well recognized that cord constructions vary as a function of the size of the tire (and the intended use)- one of ordinary skill in the art at the time of the invention would have found it obvious to select an amplitude and wavelength in accordance to the claimed invention absent a conclusive showing of unexpected results.

Regarding claims 58 and 63, the claims define an extremely broad range of values for the cord density and said values are consistent with those conventionally used in tire components, including flippers. Additionally, applicant has not provided a conclusive showing of unexpected results to establish a criticality for the claimed cord density.

With respect to claims 64 and 65, flipper 12 and chafer 16 are formed of metallic reinforcing elements inclined between 20 and 45 degrees with respect to the equatorial plane of the tire, which falls entirely within the broad ranges of the claimed invention.

Regarding claim 70, the “chafer” of Pneumatiques is disposed between two carcass plies in as much as Figure 4 depicts such an arrangement (see Page 26, Lines 27+ of original disclosure).

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4. Claims 31 and 69 are rejected under 35 U.S.C. 103(a) as being unpatentable over lo (JP 06024216, of record) and further in view of Okamoto. lo is directed to a pneumatic tire construction comprising a chafer 3 and a flipper that is spaced from a carcass structure by said chafer (reference uses same reference character for each bead reinforcing layer). The reference further teaches that each bead reinforcing layer is formed of metallic reinforcing elements (Paragraph 6). While lo fails to expressly suggest a cord having at least one preformed element, such a metallic cord is recognized as providing improved corrosion resistance and fatigue resistance. It is particularly noted that Okamoto broadly teaches the use of such a metallic cord in tire constructions- one of ordinary skill in the art at the time of the invention would have readily appreciated forming a wide variety of tire components, including a conventional tire flipper, with the disclosed steel reinforcing cord as the above noted benefits are highly desirable in all tire components including steel reinforcing elements. Absent any conclusive showing of unexpected results, one of ordinary skill in the art at the time of the invention would have found it obvious to use the metallic cord of Okamoto in the flipper of Pneumatiques. Lastly, the preformed filaments of Okamoto have a diameter between 0.10 mm and 0.50 mm, which substantially encompasses the claimed range (Column 5, Lines 34-36).

Also, regarding claim 31, chafer 3 (layer that is directly adjacent main portion of carcass plies) is arranged between flipper 3 (layer that is wrapped around bead core and terminates near carcass turnup end) and carcass 1.

Regarding claim 69, chafer 3 is disposed axially internal with respect to the carcass structure.

Response to Arguments

5. Applicant's arguments filed December 10, 2010 have been fully considered but they are not persuasive.

Applicant argues that Pneumatiques fails to teach a chafer that is disposed between at least one flipper and at least one carcass ply. The examiner respectfully disagrees. As detailed above, the tire of Pneumatiques includes at least one flipper ply. In the instance where two flipper plies are included, a first flipper directly adjacent the carcass can be viewed as the claimed "chafer" and the second flipper can be viewed as the claimed "flipper". It is emphasized that the claims as currently drafted fail to exclude a flipper ply from being viewed as the claimed "chafer" (claims fail to include structural limitations that distinguish a chafer from a flipper). Also, this position was set forth by the Examiner in the previous communication (Page 7, 1st paragraph).

With respect to 10, applicant contends that the reference fails to disclose a chafer component between at least one flipper and at least one carcass ply. The examiner respectfully disagrees. As detailed above, innermost ply 3 (that which is in direct contact with the carcass main portion) is arranged between said carcass ply and flipper 3 (that which is wrapped around bead cores and terminates near carcass turnup end).

Conclusion

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

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§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Justin R. Fischer** whose telephone number is **(571) 272-1215**. The examiner can normally be reached on M-F (7:30-4:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on (571) 272-1226. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Justin Fischer
/Justin R Fischer/
Primary Examiner, Art Unit 1747
December 20, 2010